

Work Order ID 91998

October-19-12 12:47:42 PM

91998

135/145

Page 1

Item ID: 647.1602

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Doubler Assembly

Start Date: 19/10/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 02/11/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: MLS Date: 12-10-19 Tooling: _____ Date: _____

Run Start

NR1

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
647.1600	N/C								
110	Pick Kit	0.00							
110									
Packaging	Memo	0.00		13 13-4-18					
Packaging									
120		0.00							
120									
Small Fab	Memo	0.00		13 13-4-18					
Small Fab	1- Assemble nutplate as per dwg								
130	QC5- Inspect part completeness to step on W/O	0.00							
130									
QC	Memo	0.00		13 13/04/22					
Quality Control									

(4)

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </div> </div>						
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector			
Doc/Data <input type="checkbox"/>												
Equip/Tooling <input type="checkbox"/>												
Operator <input type="checkbox"/>												
Material <input type="checkbox"/>												
Setup <input type="checkbox"/>												
Other <input type="checkbox"/>												
Process <input type="checkbox"/>												
Supplier <input type="checkbox"/>												
Training <input type="checkbox"/>												
Unapproved <input type="checkbox"/>												
FAULT CATEGORY												
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube			General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio			<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions			<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge _____ _____ _____		<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other _____ _____ _____	

Work Order ID 91998

October-19-12 12:47:42 PM

91998

Page 2

Item ID: 647.1602

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Doubler Assembly

Start Date: 19/10/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 02/11/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	Identify as per dwg & Stock Location: ST/3A	0.00							
140									
Packaging	Memo	0.00							
Packaging	***IDENTIFY AS PER APICAL MPP-120 BY STAMPING THE P# AND REV***								
150	QC21- Final Inspection - Work Order Release	0.00							
150									
QC	Memo	0.00							
Quality Control									

IX

SP
13-4-23

13/4/24
MF
13-4-24

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </div> </div>						
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector			
Doc/Data <input type="checkbox"/>												
Equip/Tooling <input type="checkbox"/>												
Operator <input type="checkbox"/>												
Material <input type="checkbox"/>												
Setup <input type="checkbox"/>												
Other <input type="checkbox"/>												
Process <input type="checkbox"/>												
Supplier <input type="checkbox"/>												
Training <input type="checkbox"/>												
Unapproved <input type="checkbox"/>												
FAULT CATEGORY												
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped. <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube			General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio			<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions			<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge _____ _____ _____		<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other _____ _____ _____	

Picklist Print

October-19-12 12:47:47 PM

Page 1

Work Order ID: 91998

91998

Parent Item: 647.1602

647 1602

Parent Item Name: Doubler Assembly

Start Date: 19/10/2012

Required Date: 02/11/2012

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A 12.10.04 NEW ISSUE DD VERF:JFS

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
647.1613		Manufactured	No				Each	0.0000		1			
<div><div>*647 1613*</div><div>Doubler</div></div>													
MS21059-3		Purchased	No				Each	250.0000		4			
<div><div>*MS21059-3*</div><div>Nut Plate</div></div>													
<div><div><div><div>Location</div><div>ST316</div><div>123023</div><div>123301</div></div><div><div>Loc Qty</div><div>250</div><div>50</div><div>200</div></div><div><div>Loc Code</div><div></div><div></div><div></div></div></div></div>													
CCR264SS3-04		Purchased	No				Each	646.0000		8			
<div><div><div><div>*CCR264SS3-04*</div><div>RIVET</div></div></div></div>													
<div><div><div><div>Location</div><div>ST327</div><div>123352</div><div>ST331</div><div>17997</div></div><div><div>Loc Qty</div><div>200</div><div>200</div><div>446</div><div>446</div></div><div><div>Loc Code</div><div></div><div></div><div></div><div></div></div></div></div>													

CCR 264SS 3-03

123265

8 13-4-18

See ATTACHED
E MAIL

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

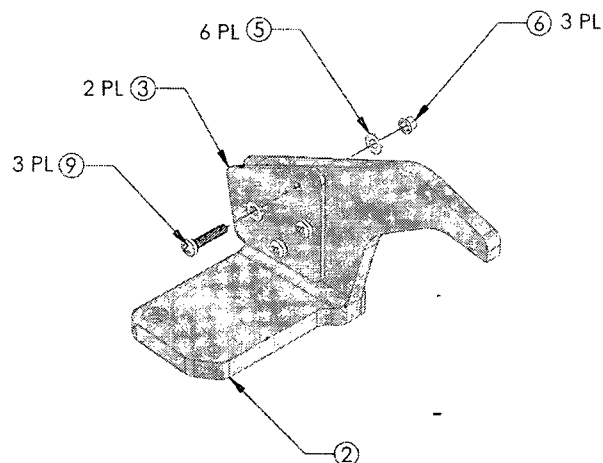
QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </div> </div>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data <input type="checkbox"/>											
Equip/Tooling <input type="checkbox"/>											
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Setup <input type="checkbox"/>											
Other <input type="checkbox"/>											
Process <input type="checkbox"/>											
Supplier <input type="checkbox"/>											
Training <input type="checkbox"/>											
Unapproved <input type="checkbox"/>											
FAULT CATEGORY											
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped. <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube				General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio				<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions			
				<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge				<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other			

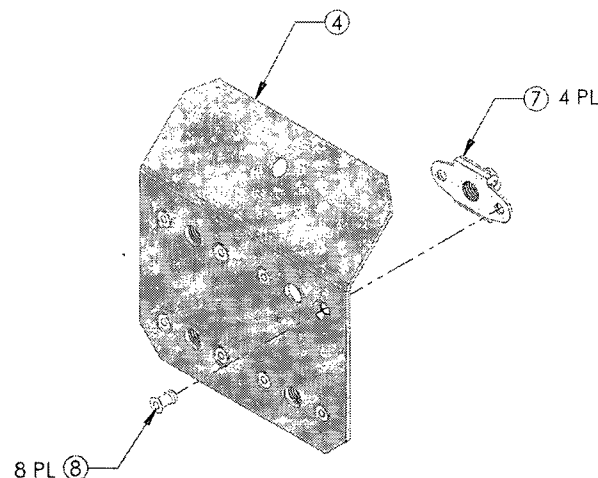
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NOTES:

- 1 MATERIAL: ALUMINUM 7075-T651 AMS-QQ-A-250/12
- 2 MATERIAL: ALUMINUM 2024-T3 PER AMS-QQ-A-250/4
- 3 FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK; CARDINAL 4860-50 PRETREATMENT PRIMER PRIME IAW MIL-P-23377 J TYPE I CLASS N
- 4 DEBURR AND BREAK ALL SHARP EDGES
- 5 IDENTIFY IAW MPP-120



647.1601 SHOWN EXPLODED

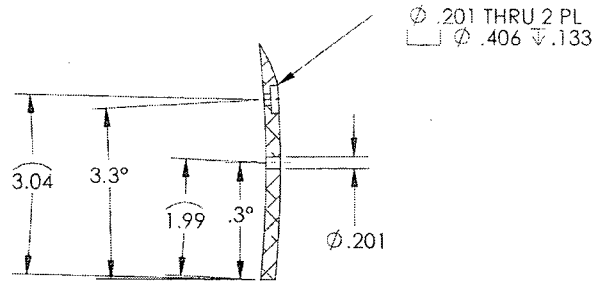
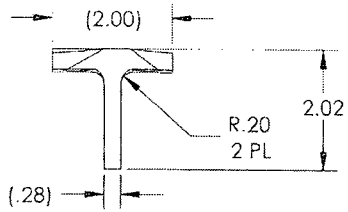


647.1602 SHOWN EXPLODED

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 91998 MCT
12-10-19

	3	9	601.2989	SCREW	AMS27039-0812	
	8	8	601.2980	NUTPLATE RIVET	GOP26435-0-04	
	4	7	601.1900	NUTPLATE	AMS21059-3	
	3	6	601.2973	LOCKNUT	AMS21042-05	
	6	5	601.2764	WASHER	NAS1145F4833P	
1	4	647.1613	DOUBLER		2	3
	2	3	647.1612	SPLICE PLATE	2	3
	1	2	647.1611	WIPER DEFLECTOR, AFT	1	3
		1	647.1610	WIPER DEFLECTOR, FWD	1	3
X			647.1602	DOUBLER ASSY		
	X		647.1601	WIPER DEFLECTOR ASSY, AFT		
1602	1601	FIND #	PART #	DESCRIPTION	MATL	SPEC.
QTY		PARTS LIST				
NEXT ASSY (S)		APICAL INDUSTRIES				
647.1300		2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300				
		WIPER DEFLECTOR ASSY				
		SHEET CODE: DWG. NO. 647.1600 REV. N/C				
		SCALE: NONE SHEET 1 OF 5				

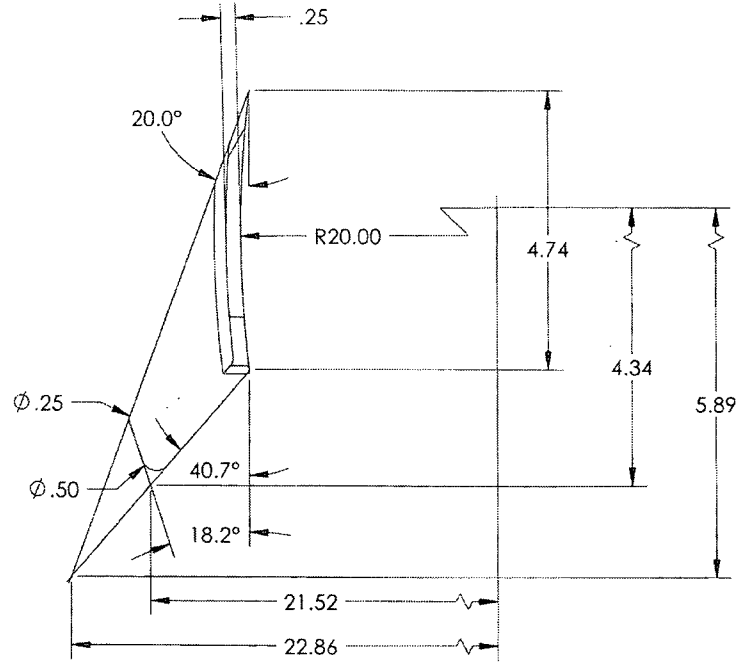
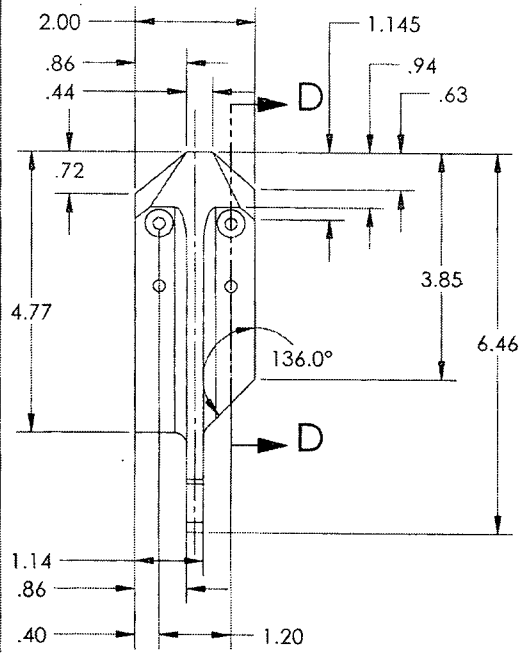
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SECTION D-D

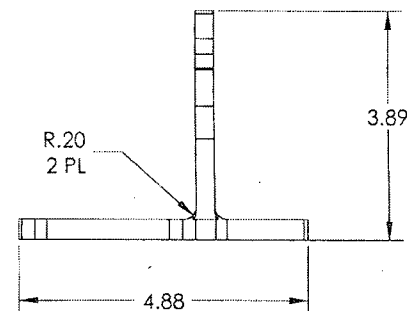


647.1610



<small> ORIGINAL DATE: 06-10-00 DESIGNED BY: J. GARDNER CHECKED BY: P. PRAYO DRAWING APPROVAL: P. PRAYO CONTRACT NO: </small>		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300	
<small> UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 3 PLACES DECIMALS ±.001 2 PLACES DECIMALS ±.005 ANGLES ±.5° </small>		SCALE: NONE	SHEET 2 OF 6
SIZE: B	CASE CODE: 07/M26	DWG NO: 647.1600	REV: N/C

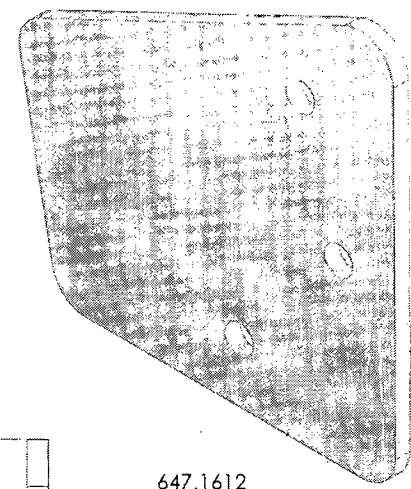
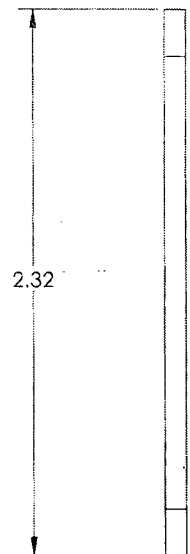
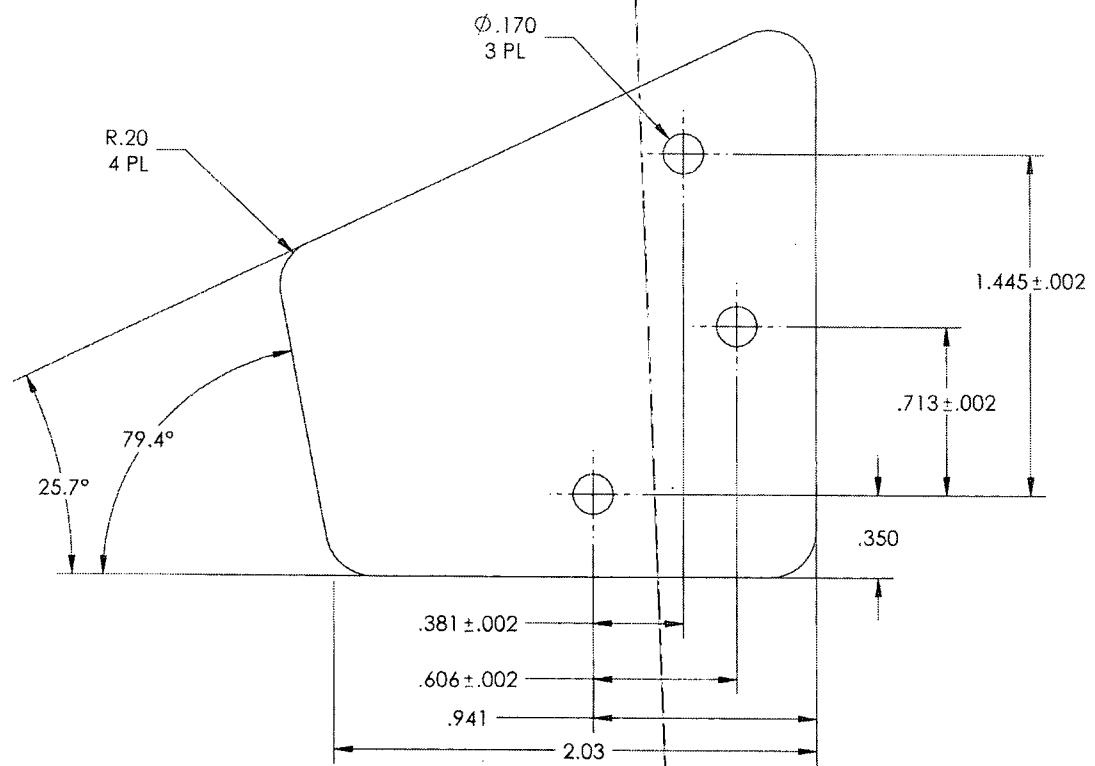
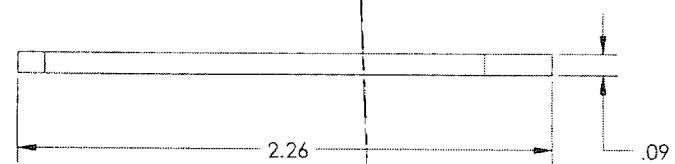
9,998

SECTION E-E 3/B4

QIP CRINAL DATA IN: 02-14-92 CL: 10249 DRAWN BY: R. HENRY 1.5 GSP/REV B. BRADY DRAWING APPROVED B. BRADY		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA 92056-3512 (760) 724-5300	
CON: PACIFIC 10		WIPER DEFLECTOR ASSY	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES 1. PLACE DECIMAL: .001 2. PLACE DECIMAL: .001 3. PLACE DECIMAL: .001 4. PLACE DECIMAL: .001		SIZE: 1/4" X 1/2" X 1/2" DIM: 3/8" 647.1600 SCALE: 1/4" = 1"	REF: N/C SHEET 4 OF 6

ALL DIMENSIONS UNLESS OTHERWISE SPECIFIED ARE IN INCHES. DIMENSIONS IN PARENTHESES ARE IN MILLIMETERS. DIMENSIONS IN PARENTHESES ARE NOT TO BE USED FOR FABRICATION. DIMENSIONS IN PARENTHESES ARE NOT TO BE USED FOR INSPECTION.

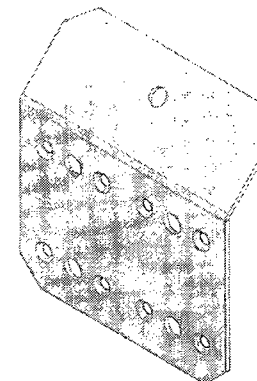
A
B
C
D



647.1612

ORIGINAL DATE		APICAL INDUSTRIES	
MODIFIED		2608 TEMPLE HEIGHTS DR.	
DRAWN BY		OCEANSIDE, CA. 92056-3512 (760)724-5300	
CHECKED BY		WIPER DEFLECTOR ASSY	
DRAWING APPROVAL		REV	
BY		N/C	
CONTRACTING		SCALE: NONE	
UNLESS OTHERWISE SPECIFIED		SHEET 5 OF 6	
DIMENSIONS ARE IN INCHES			
FRACTIONS ARE TO 3 PLACES			
DECIMALS ARE TO 3 PLACES			
ANGLES ARE TO 1°			

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ADMARCO GROUPS AND IS CONFIDENTIAL IN CASE IT REACHES OUTSIDE
THE GROUP. PERMISSION OF ADMARCO FINANCIAL GROUP LIMITED



COPIES DATE 04-28-14 04-10-14 DRAWN BY J. CARPENTER DRAWING APPROVAL P. RAYNO CONTRACT NO.		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA 92056-3512 (760) 724-5300 WIPER DEFLECTOR ASSY	
INSTRUCTIONS: CHAIRSIDE SPECIFIED PARTS TO BE USED TOLPACIFIC 1/4" 1/2" 3/4" 1" 1 1/2" 2" 2 1/2" 3" 3 1/2" 4" 4 1/2" 5" 5 1/2" 6" 6 1/2" 7" 7 1/2" 8" 8 1/2" 9" 9 1/2" 10" 10 1/2" 11" 11 1/2" 12" 12 1/2" 13" 13 1/2" 14" 14 1/2" 15" 15 1/2" 16" 16 1/2" 17" 17 1/2" 18" 18 1/2" 19" 19 1/2" 20" 20 1/2" 21" 21 1/2" 22" 22 1/2" 23" 23 1/2" 24" 24 1/2" 25" 25 1/2" 26" 26 1/2" 27" 27 1/2" 28" 28 1/2" 29" 29 1/2" 30" 30 1/2" 31" 31 1/2" 32" 32 1/2" 33" 33 1/2" 34" 34 1/2" 35" 35 1/2" 36" 36 1/2" 37" 37 1/2" 38" 38 1/2" 39" 39 1/2" 40" 40 1/2" 41" 41 1/2" 42" 42 1/2" 43" 43 1/2" 44" 44 1/2" 45" 45 1/2" 46" 46 1/2" 47" 47 1/2" 48" 48 1/2" 49" 49 1/2" 50" 50 1/2" 51" 51 1/2" 52" 52 1/2" 53" 53 1/2" 54" 54 1/2" 55" 55 1/2" 56" 56 1/2" 57" 57 1/2" 58" 58 1/2" 59" 59 1/2" 60" 60 1/2" 61" 61 1/2" 62" 62 1/2" 63" 63 1/2" 64" 64 1/2" 65" 65 1/2" 66" 66 1/2" 67" 67 1/2" 68" 68 1/2" 69" 69 1/2" 70" 70 1/2" 71" 71 1/2" 72" 72 1/2" 73" 73 1/2" 74" 74 1/2" 75" 75 1/2" 76" 76 1/2" 77" 77 1/2" 78" 78 1/2" 79" 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Jean-Luc Menard

From: Alex Quan <aquan@apicalindustries.com>
Sent: April-18-13 11:34 AM
To: Dave Barker; Jean-Luc Menard; Pablo Bravo
Subject: RE: 647.1602 RIVET LENGHT

JL, you are right. They should be -03 rivets.

Alex

From: Dave Barker [<mailto:DBarker@dartaero.com>]
Sent: Thursday, April 18, 2013 8:24 AM
To: Jean-Luc Menard; Pablo Bravo; 'Alex Quan' (aquan@apicalindustries.com)
Subject: FW: 647.1602 RIVET LENGHT

JL – Pablo is out of the office, I've added Alex to the email. He should be able to confirm.

Thanks,

Dave

From: Jean-Luc Menard [<mailto:jmenard@dartaero.com>]
Sent: Thursday, April 18, 2013 5:12 AM
To: Pablo Bravo; 'David Barker'
Cc: Eric Downing
Subject: 647.1602 RIVET LENGHT

Hi Pablo/Dave,

We have started assembling the nutplates on the 647.1602 .

The dwg currently calls for CCR264SS3-04 that is on the right in the picture, on the left is a -04.

Think we should go for the -03.

Let me know what think, if you agree, I will issue a ECR.

Thx ,

JL